

Columbia River Mile 214, Sediment Quality Evaluation
August, 1991

Abstract

1. In accordance with Section 404 of the Clean Water Act of 1977 sediments from the federal navigation project at Columbia River Mile (RM) 214 just downstream from the John Day Dam were evaluated and determined to be suitable for unconfined in-water or upland disposal without restrictions due to sediment quality (see map). Sediment samples were found to consist solely of well rounded gravel, no analytical tests were conducted to further classify the material.

Introduction

2. The navigation channel at RM 214 is part of the Federally authorized 14 ft deep by 250 ft wide channel from The Dalles, Oregon to McNary Dam. Minimum Operating Pool (MOP) for The Dalles pool is 155 feet above the Mean Sea Level (MSL) datum.

History

3. The area was last dredged in 1972 using a Corps owned and operated pipeline dredge. No sediment quality evaluations had ever been conducted in this area prior to the present study.

Methods

4. Four sediment samples were collected on August 28, 1991, three by ponar from the shoal area to be dredged and one grab sample taken by hand from the dredged material placement island just up-stream of RM 214. Depths were taken using a lead line at the three channel sample sites.

Results/Discussion

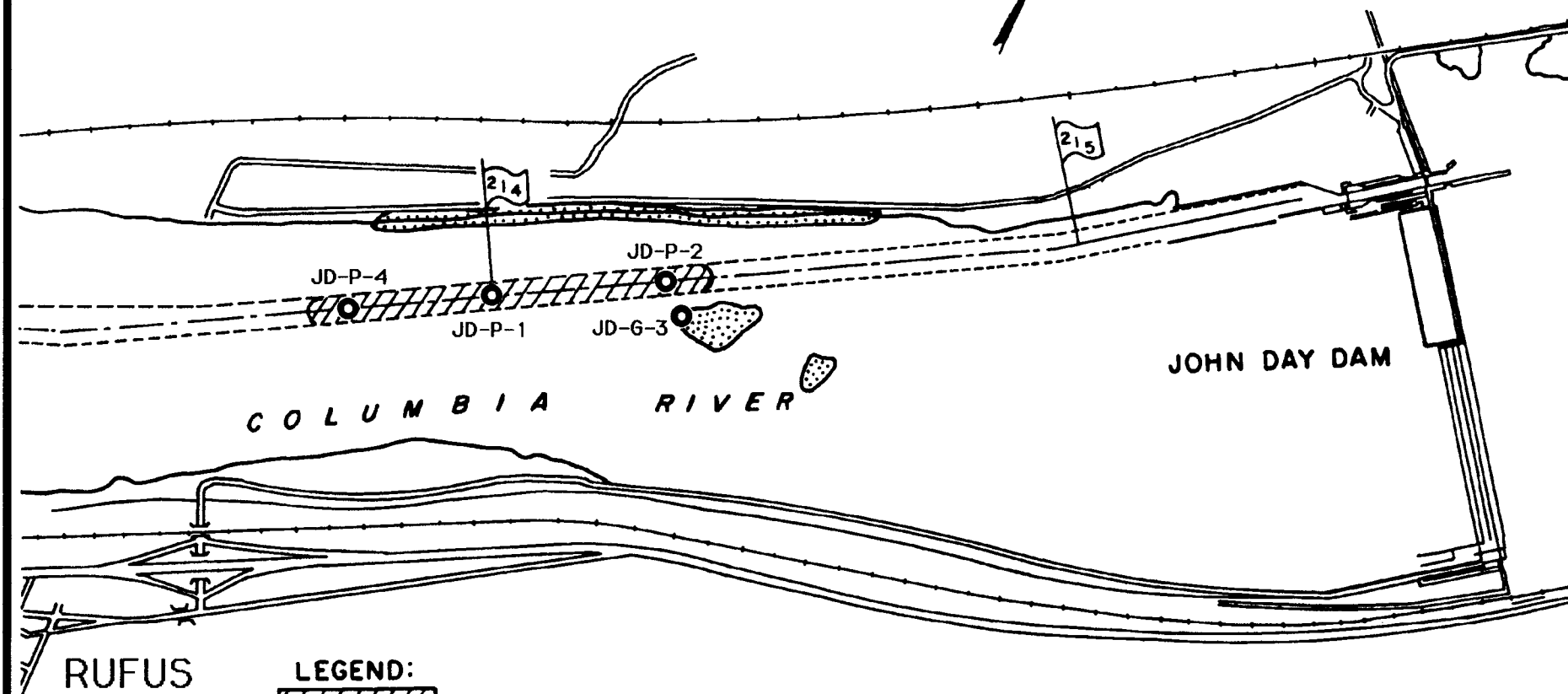
5. Samples collected were comprised solely of well rounded gravel composed of a mixture of quartzite, basalt/andesite and granitic material. The largest piece collected in the three channel samples was four inches long, the smallest, three-fourths of an inch long. Most of the material averaged an estimated two inches in length. Larger rock may exist in the area as cobble sized material (>8 inches) was noted on the dredged material placement island. The sampling devise used was incapable of collecting material the size of large cobbles.

6. Water depths at sample location JD-P-1 was 22 feet at the time of sampling. For sample location JD-P-2 and JD-P-4 the water depth was measured at 24 feet. Gage readings in the forebay at The Dalles Dam (RM 192+00) varied from 159.1 feet to 159.3 feet above MSL; gage readings in the tailwater of John Day Dam (RM 215+20) varied from 160.6 feet to 161.7 feet above MSL during the time period when the sediment samples were collected. Adjusting for the water elevation above MOP (155 feet above MSL) during sampling, gives water depths of 15.3 feet and 17.3 feet below MOP assuming a water elevation of 161.7 feet.

Recommendations

7. Columbia River sediments from the shoal area at RM 214 are suitable for unconfined in-water and upland disposal with no unacceptable adverse environmental impacts expected due to sediment quality.

WASHINGTON



JOHN DAY DAM

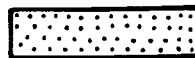
C O L U M B I A R I V E R

RUFUS

LEGEND:



DREDGING AREA



PLACEMENT AREA

500 0 1000 2000
SCALE IN FEET

O R E G O N

COLUMBIA RIVER - LAKE CELILO
PREACHERS EDDY
PROPOSED MAINTENANCE DREDGING
KLICKITAT COUNTY, WASHINGTON
SAMPLE LOCATIONS AUGUST 28, 1991